

Work Order ID 86049-2

\*86049\*

Page 1

June-19-12 4:13:00 PM

Item ID: D2573

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Saddle, Aft Out 205

Start Date: 19/06/2012 Start Qty: 12.00 \*12\*

Cust Item ID:

Required Date: 09/07/2012 Req'd Qty: 12.00 \*12\*

Customer:

Reference:

Approvals: Process Plan: MJS

Date: 12/06/19

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2573

Rev E

100

0.00

\*100\*

HAAS CNC VERTICAL MACHINING #1

PO/B. 12/07/01 1 0

HAAS 1

HAAS CNC vertical machine #1

Memo

0.00

Program Batch No. 86049 Double check by: B. 1-Machine Step  
No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine  
Step No 2 per Folio FA051 and inspect per attached Dimension Sheets 3-  
Machine Step No 3 per Folio FA051 and insp

110

0.00

\*110\*

CONVENTIONAL MILLING MACHINE

12/07/10 12 0

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

120

0.00

\*120\*

QC2- Inspect parts off machine FAI/FAIB

PO/B. 12/07/01 1 0

QC

Memo

0.00

Quality Control

W/O: 86049-2

## WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2573 PAR #: \_\_\_\_\_ Fault Category: Nothing NCR: Yes No QA Date: 12/08/02  
 Resolution: \_\_\_\_\_ Disposition: Use as is QA: N/C Closed: 12/1/02 Date: 12/1/02

NCR: 12-1640

## WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/07/01	100	DIM AB is TOO SHORT wrong offset in the program. and Folig.	DAS 12 2-89 12/7/27	THICKNESS OF RIDGE OVERHANG IS 0.230 (Dwg = 0.245). MARGIN OF SAFETY STILL POSITIVE, INSTALLS ON SKID OK, 00 Acceptable SEE ATTACHED S.R.	PD 12/07/01	12-07-27	DAS 12 2-89 12/1/23	DAS 16 2-89 12/4/24

NOTE: Date &amp; initial all entries



# Work Order ID 86049

\*86049\*

Page 2

June-19-12 4:13:00 PM

Item ID: D2573

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Saddle, Aft Out 205

Start Date: 19/06/2012 Start Qty: 12.00 \*12\*

Cust Item ID:

Required Date: 09/07/2012 Req'd Qty: 12.00 \*12\*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start \*NR1\*

QC: Date: SPC (Y/N): Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
*130*									
QC	Memo	0.00							
Quality Control									

140	Chemical Conversion Coat per QSI005 4.1	0.00							
*140*									
HandFinish	Memo	0.00							
Hand Finishing									

150	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
*150*									
Powdercoat	Memo	0.00							
Powder Coating									

START TIME: FINISH TIME: OVEN TEMPERATURE:

3200F 10-00

m 12/18/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86049

\*86049\*

Page 3

Item ID: D2573

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Saddle, Aft Out 205

Start Date: 19/06/2012 Start Qty: 12.00

\*12\*

Cust Item ID:

Required Date: 09/07/2012 Req'd Qty: 12.00

\*12\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC3- Inspect Part Finish

0.00

\*160\*

QC

Memo

0.00

Quality Control

1 0 12/7/22

170

Identify as per dwg & Stock Location: 442

0.00

\*170\*

Packaging

Memo

0.00

Packaging

1 12/7/22

180

QC21- Final Inspection - Work Order Release

0.00

\*180\*

QC

Memo

0.00

Quality Control

12/7/31

MUJ 12/10/30



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-19-12 4:13:03 PM

Page 1

Work Order ID: 86049

\*86049\*

Parent Item: D2573

\*D2573\*

Parent Item Name: Saddle, Aft Out 205

Start Date: 19/06/2012

Required Date: 09/07/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: T As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007		Manufactured	No			100	Each	47.0000	1	12			

\*D6101-007\*

Saddle Billet

\*\*

SL 12-06-28

Location	Loc Qty	Loc Code
MAT041	46	
83450	16	
85432	30	
MAT042	1	
79875	1	

12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 86049
<b>Description:</b> Saddle, Aft Outboard	<b>Part Number:</b> D2573
<b>Inspection Dwg:</b> D2573 Rev. E	<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.438	0.443		0.438	.439	.439	.439		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.000	8.009	8.001	8.001		
F	0.490	0.510		0.495	.504	.495	.495		
G	0.257	0.262		0.258	.258	.258	.258		
H	0.375	0.380		0.376	.377	.377	.377		
I	0.490	0.510		0.500	.499	.496	.500		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		0.566	.564	.561	.567		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		0.128	.125	.125	.126		
Q	0.115	0.135		0.135	.135	.135	.135		
R	0.240	0.260		0.251	.251	.251	.251		
S	0.115	0.135		0.124	.120	.121	.120		
T	0.178	0.198		0.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		0.240	.236	.238	.238		
W	0.115	0.135		0.122	.122	.125	.125		
X	0.308	0.313		.310	.310	.310	.310		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		0.363	.362	.363	.363		
AA	0.470	0.530		0.500	.500	.500	.500		
AB	0.615	0.635		0.607	.620	.625	.625		
AC	0.053	0.073		0.063	.063	.063	.063		
AD	0.240	0.260		0.247	.244	.246	.245		
AE	1.500	1.520		1.514	1.518	1.512	1.517		
AF	0.115	0.135		0.120	.120	.120	.120		
AG	0.240	0.280		0.275	.275	.275	.275		
AH	0.240	0.260		0.247	.245	.248	.247		
AI	2.000	2.020		2.000	2.008	2.002	2.007		
AJ	0.023	0.043							
Accept/Reject									

Measured by: PO / B.M.
Date: 12/07/01

Audited by: JT
Date: 12/07/25 / JA

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	06049
<b>Description:</b> Saddle, Aft Outboard	<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				15	16	17	18		
A	0.438	0.443		.439	.439	.439	.439		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.006	8.002	8.000	8.003		
F	0.490	0.510		.510	.498	.501	.504		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.501	.501	.502	.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.567	.566	.566	.566		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.125	.125	.126	.127		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.250	.250	.251	.251		
S	0.115	0.135		.125	.125	.126	.127		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.240	.240	.240	.240		
W	0.115	0.135		.125	.126	.130	.125		
X	0.308	0.313		.310	.310	.310	.310		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.363	.363	.367	.365		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.625	.625	.625	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.247	.249	.256	.256		
AE	1.500	1.520		1.514	1.514	1.514	1.514		
AF	0.115	0.135		.120	.120	.120	.120		
AG	0.240	0.280		.275	.275	.275	.275		
AH	0.240	0.260		.249	.249	.250	.250		
AI	2.000	2.020		2.004	2.004	2.004	2.003		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by:	SL
Date:	12-07-04

Audited by:	HA
Date:	12/07/25/04

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	86049
<b>Description:</b> Saddle, Aft Outboard	<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				A <sub>9</sub>	A <sub>10</sub>	A <sub>11</sub>	A <sub>12</sub>		
A	0.438	0.443		.439	.439	.439	.439		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.002	8.002	8.002		
F	0.490	0.510		.500	.500	.500	.500		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.501	.501	.501	.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.567	.567	.567	.567		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.127	.127	.127	.127		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.250	.250	.250	.250		
S	0.115	0.135		.127	.127	.127	.127		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.240	.240	.240	.240		
W	0.115	0.135		.125	.125	.125	.125		
X	0.308	0.313		.310	.310	.310	.310		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.363	.363	.363	.363		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.628	.628	.628	.628		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.256	.256	.256	.256		
AE	1.500	1.520		1.513	1.513	1.513	1.513		
AF	0.115	0.135		.120	.120	.120	.120		
AG	0.240	0.280		.275	.275	.275	.275		
AH	0.240	0.260		.250	.250	.250	.250		
AI	2.000	2.020		2.003	2.003	2.003	2.003		
AJ	0.023	0.043							
Accept/Reject									

Measured by:	20
Date:	12-02-05

Audited by:	st
Date:	12/07/25 / 8.7

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

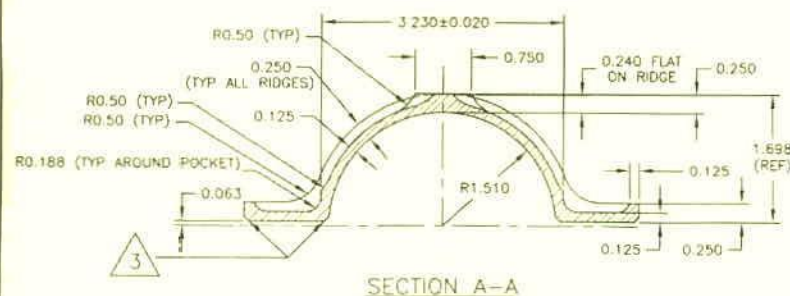
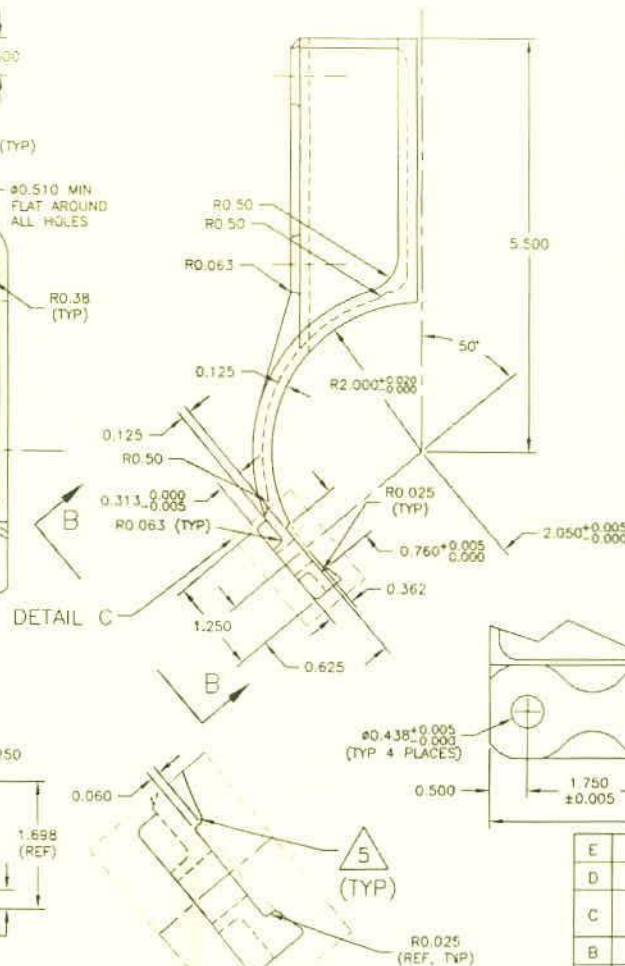
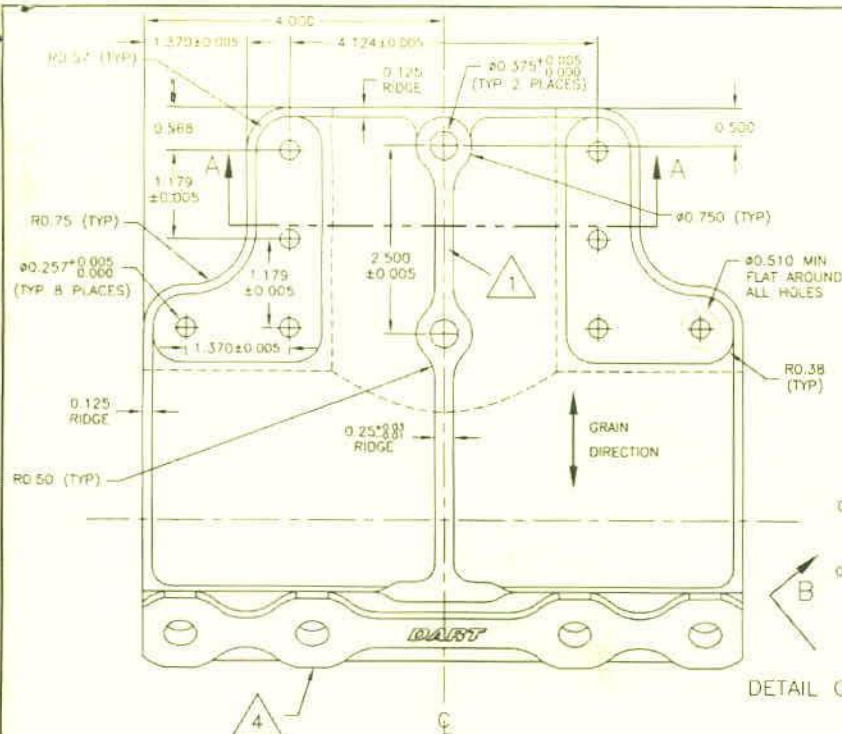
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



RELEASED

05.12.06

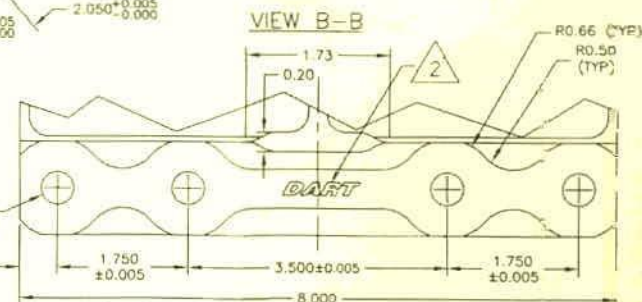
DETAIL C  
SCALE 4:3

## NOTES

MATERIAL: 7075-T7351 (Q0-A-250/12)  
(REF DART SPEC. D6102-001)  
FINISH: ACID ETCH, ALODINE PER DART QSI 005-4.1  
POWDER COAT GLOSS WHITE (REF. 4.3.5 '1) PER  
DART QSI 005-4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125
- 3 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 4 CHAMFER 0.063" x 45° ALL AROUND
- 5 CHAMFER 0.033" x 45° (SEE DETAIL C)

VIEW B-B



E	05.07.13	ADD CHAMFER ON RIDGE NOTE 5
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCOMP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A7177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE

COPYRIGHT © 2005 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN	DS	DRAWN BY	PH	<b>DART</b>	DART AEROSPACE LTD.
CHECKED	#	APPROVED	#	DRAWING NO.	D2573
DATE	05.07.13	TITLE	OUTER AFT SADDLE	REV. E	SHEET 1 OF 1
		SCALE	2:1		

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ONLY

NO. 86049 MCJ

12/06/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

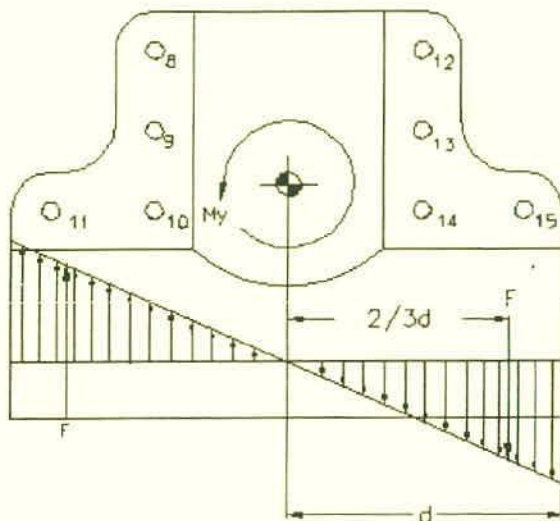
**NOTE:** Date & initial all entries



## Saddle Overhang Analysis

The saddle overhang analysis is presented here to show redundancy in the design of the saddle. If the ridge were to fail, the bolts into the skidtube are capable of taking the entire load.

A calculation using the overhang on the saddle adjacent to the ridge on the skidtube will be performed. The force required to counter the moment  $M_y$  will be calculated and then shearing of the ridge will be checked. The moment applied will be assumed to be countered by the four saddle sections.



$$M_{\text{max}} = 100240 \text{ in-lbs}$$

$$d = 4 \text{ in}$$

$$n_s = 4$$

$$t = 0.25 \text{ in } 0.230 \text{ in}$$

Applied Moment

Half of saddle length

Number of Saddle sections

Thickness of Overhang (Nominal = 0.245)

The load applied to the overhang will be assumed to be a triangular distribution. Therefore the distance to the centroid of this area will be  $2/3$  of the half length of the saddle from the center of the saddle to the end of the saddle.

$$F_s = \frac{M_{\text{max}}}{d \cdot n_s \cdot \left(\frac{2}{3}\right)}$$

$$F_s = 9397.5 \text{ lbs}$$

Force applied to overhang

$$A_s = t \cdot d$$

$$A_s = 0.92 \text{ in}^2$$

$$\sigma_s = \frac{F_s}{A_s}$$

$$\sigma_s = 9397.5 \text{ psi}$$

10215 psi

Applied Stress

$$F_{\text{sud}} = 40000 \text{ psi}$$

Shear Strength of 7075-T7351

$$MS_{33} = \frac{F_{\text{sud}}}{\sigma_s} - 1$$

$$MS_{33} = \frac{3}{26}$$

2.91

Margin of Safety

MARGIN OF SAFETY STILL POSITIVE

Acceptable

12.07.23



